

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1           1.       (Currently Amended) A computer system, comprising:  
2           a plurality of computer processor cores in which at least two of the computer processor  
3       cores are heterogeneous, and wherein the plurality of computer processor cores are configured to  
4       execute the same instruction set; and  
5           a performance measurement and transfer mechanism configured to move a plurality of  
6       executing computer processing jobs amongst the plurality of computer processor cores by  
7       matching requirements of the plurality of executing computer processing jobs to processing  
8       capabilities of the computer processor cores.

1           2.       (Currently Amended) The computer system of claim 1, further comprising:  
2           at least one of an operating system hosted on the plurality of computer processor cores,  
3       firmware, and hardware that includes the performance measurement and transfer mechanism,  
4       and the at least one of the operating system, firmware, and hardware is configured to provide for  
5       a periodic test to determine relative performance of different computer processing jobs on  
6       different ones of the computer processor cores.

1           3-6. (Canceled)

1           7.     (Previously Presented) A method for operating multiple processor cores,  
2 comprising:

3           obtaining a throughput metric that identifies throughput achieved by a plurality of  
4 computer processor cores as a function of workloads running on said computer processor cores,  
5 wherein the plurality of computer processor cores are on a single semiconductor die, in which at  
6 least two computer processor cores differ in processing capability, and wherein the computer  
7 processor cores execute the same instruction set; and

8           transferring individual ones of a plurality of computer processing jobs amongst targeted  
9 ones of said plurality of computer processor cores based on the throughput metric.

1           8.     (Currently Amended) The method of claim 7, further comprising:

2           providing for a periodic test to determine relative performance of different computer  
3 processing jobs on different ones of the computer processor cores.

1           9- 14 (Canceled)

1           15.    (Original) The method of claim 7, further comprising:

2           associating workloads for execution on specific processor cores based on annotations  
3 associated with the computer processing jobs.

1           16.    (Canceled)

1           17.     (Cancelled)

1           18.     (Previously Presented) The computer system of claim 1, wherein the performance  
2 measurement and transfer mechanism is configured to maximize total system throughput.

1           19.     (Previously Presented) The computer system of claim 1, wherein the performance  
2 measurement and transfer mechanism is configured to transfer the executing computer  
3 processing jobs to a new assignment amongst the plurality of computer processor cores, collect  
4 performance statistics about execution at the new assignment, and then determine whether to  
5 reassign the executing computer processing jobs to different computer processor cores based on  
6 the performance statistics collected.

1           20.     (Currently Amended) A computer system, comprising:  
2 a plurality of computer processor cores in which at least two differ in processing  
3 performance, and wherein the plurality of computer processor cores are configured to execute the  
4 same instruction set; and  
5 a performance measurement and transfer mechanism configured to move a plurality of  
6 executing computer processing jobs amongst the plurality of computer processor cores based on  
7 a measured throughput metric,  
8 wherein the performance measurement and transfer mechanism is configured to swap  
9 execution of the executing computer processing jobs between the computer processor cores for a  
10 period of time, monitor resulting performance, and then build a data structure with relative  
11 performances of jobs on different types of the computer processor cores.

1           21.     (Cancelled)

1           22.     (Previously Presented) The computer system of claim 19, wherein the  
2 determination of whether to reassign the jobs to different computer processor cores also is based  
3 on at least one of a user-defined metric or a workload-defined metric.

1           23.   (Previously Presented) The method of claim 7, wherein the throughput metric  
2 comprises a number of instructions per second.

1           24.   (Previously Presented) The computer system of claim 1, wherein movement of the  
2 executing computer processing jobs is constrained to occur only at operating system time slice  
3 intervals.

1           25.   (Previously Presented) A method for operating multiple processor cores,  
2 comprising:

3           assigning a plurality of computer processing jobs amongst a plurality of computer  
4 processor cores, wherein at least two of the computer processor cores differ in size or complexity  
5 but execute the same instruction set, and

6           wherein assigning the plurality of computer processing jobs amongst the plurality of  
7 computer processor cores comprises matching requirements of the computer processing jobs to  
8 processing capabilities of the computer processor cores based on the sizes or complexities of the  
9 computer processor cores.

1           26.   (Currently Amended) The method of claim 25, further comprising periodically  
2 testing to determine relative performance of different computer processing jobs on different ones  
3 of the computer processor cores.

1           27.-28. (Cancelled)

1           29.   (Currently Amended) A method for operating multiple processor cores,  
2 comprising:

3           obtaining a throughput metric that identifies throughput achieved by computer processor  
4 cores on a single semiconductor die as a function of workloads running on said computer  
5 processor cores; and

6           assigning a plurality of computer processing jobs amongst ~~a plurality of the~~ computer  
7 processor cores based on the throughput metric, wherein at least two of the computer processor  
8 cores differ in size or complexity but execute the same instruction set;

9           transferring the computer processing jobs to a new assignment amongst the ~~plurality of~~  
10 computer processor cores;

11          collecting statistics about execution performance of the computer processing jobs at the  
12 new assignment;

13          determining whether to reassign the computer processing jobs to different computer  
14 processor cores based on the statistics collected; and

15          building a data structure with relative performances of the computer processing jobs on  
16 different types of computer processor cores based on the statistics collected.

1           30.   (Previously Presented) The method of claim 29, wherein the determination of  
2 whether to reassign the computer processing jobs to different computer processor cores also is  
3 based on at least one of a user-defined metric or a workload-defined metric.

4           31.     (Previously Presented) The method of claim 29, wherein the throughput metric  
5     comprises a number of instructions performed per second.

1           32.     (Previously Presented) The computer system of claim 1, wherein the processing  
2     capabilities of the computer processor cores are defined by one or more of chip area, available  
3     resource, and relative speed of the computer processor cores.

1           33.     (Previously Presented) The computer system of claim 1, wherein the performance  
2     measurement and transfer mechanism is configured to move the plurality of executing computer  
3     processing jobs amongst the plurality of computer processor cores further based on annotations  
4     associated with the computer processing jobs.

1           34.     (Previously Presented) The computer system of claim 1, wherein the performance  
2     measurement and transfer mechanism is configured to further re-assign the plurality of executing  
3     computer processing jobs amongst the plurality of computer processor cores by repeatedly  
4     performing a test to match the requirements of the plurality of executing computer processing  
5     jobs to the processing capabilities of the computer processor cores.

1           35.     (Previously Presented) The method of claim 25, wherein assigning the plurality of  
2     computer processing jobs amongst the plurality of computer processor cores is further based on  
3     annotations associated with the computer processing jobs.

1           36.     (Previously Presented) The method of claim 25, further comprising:  
2     repeatedly performing a test to match requirements of the computer processing jobs to the  
3     processing capabilities of the computer processor cores; and  
4     re-assigning the plurality of computer processing jobs amongst the plurality of computer  
5     processor cores based on the repeated tests.

1           37.     (Previously Presented) The method of claim 29, wherein the throughput metric  
2     indicates total system throughput, and wherein the assigning maximizes the total system  
3     throughput, as indicated by the throughput metric.